

Serial No. 10/821,588Docket No.: 55476US041

### Remarks

Applicants have amended the related application information as recommended by the Examiner, editorially amended page 20, and amended claims 1-4 as shown above. Support for the claim amendments can be found in the Written Description at, e.g., page 2, line 9; page 8, line 8 through page 9, line 16; page 10, line 18 through page 11, line 4; page 12, lines 1-10 and page 14, lines 25-29. Following entry of this amendment, claims 1-18 will be pending in this application with claims 5-18 having been withdrawn.

Applicants thank the Examiner for extending to the undersigned attorney the courtesy of a telephonic interview on April 6, 2005, during which the amendments shown above and the arguments shown below were discussed.

### Rejection of Claims 1-4 under 35 USC §112

Claims 1-4 were rejected under 35 USC §112, second paragraph, as being indefinite on grounds, *inter alia*, that:

*"In claim 1, Applicants recite options a or b followed by a statement in the last line that "the periods of at least three of the devices are not periodically related" and it is unclear how this phrase would be applicable to option b. when only two pick and place devices are used. Clarification is necessary.*

*"In claim 2, it is unclear how this claim, in reciting a "wherein" clause, constitutes a structural limitation because no further structure is claimed or recited to effect the function of selecting the periods to provide for uniformity in coating.*

*"In claims 3 and 4, Applicants recite a plurality of rolls but it is unclear whether these rolls are in addition to the pick and place devices recited in claim 1 or whether said plurality of rolls are the pick and place devices recited in claim 1. Clarification is necessary." (see the Office Action at page 3).*

In claim 1, the phrase "that can periodically contact and re-contact the coating at different positions on the substrate, wherein the periods of at least three of the devices are not periodically related" has been replaced by the phrase "and in which the pick-and-place devices (a) or (b) periodically contact the wet coating at a first position on the substrate and

Serial No. 10/821,588Docket No.: 55476US041

contact the wet coating at positions on the substrate whose lengths along the substrate with respect to the first position are not all the same". In claim 2, the phrase "wherein the periods are selected so that the uniformity of the coating is improved" has been replaced by the phrase "wherein at least two of the pick-and-place devices (a) or (b) have contacting periods that improve coating uniformity in the direction of substrate motion". Claim 3 now recites an improvement station "wherein the pick-and-place devices (a) or (b) comprise a train of three or more rolls" and claim 4 now recites an improvement station according to claim 3 "wherein the pick-and-place devices (a) or (b) comprise a train of five or more rolls". These amendments should render moot the 35 U.S.C. §112 rejection and thus its withdrawal is requested.

#### **Rejection of Claims 1-4 under 35 USC §102(b)**

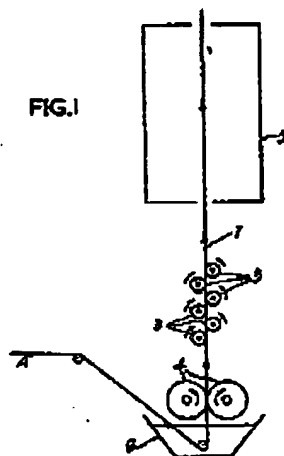
Claims 1-4 were rejected under 35 USC §102(b) as being anticipated by U.K. Patent No. 1,278,099 (Hall), on grounds that:

*"Hall teaches an apparatus for improving uniformity of a liquid coating on a substrate comprising the combination of at least two or more pick-and-place devices (3; col. 1, lines 41-46) that rotate in the same direction, the pick and place devices being disposed on opposite sides of a coated substrate, each device reciprocating into and out of contact with the coated substrate so as to periodically contact and re-contact the coating at different positions on the substrate wherein the devices are out of phase with one another (see claim 5) constituting non-periodically related devices."*  
(see the Office Action at page 4).

Hall shows a roll coater 4 that applies a coating liquid on both sides of a film 1. Each wet coating is contacted by three counter-rotating smoothing rollers 3:

Serial No. 10/821,588

Docket No.: 55476US041

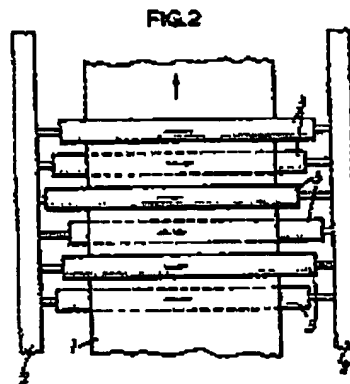


Hall's rollers 3 are all the same size (see e.g., page 2, lines 97-98), are mounted together in a support structure 2 (see e.g., Fig. 2 and page 2, lines 89-93), are geared together using straight-cut gears (see e.g., page 2, line 127 through page 3, line 2) and are said to spin at the same speed (see e.g., page 3, lines 7-8). Such an arrangement would by itself merely repropagate, not reduce defects (see e.g., applicants' Written Description at page 10, lines 9-17).

Hall says however that at least one of his rollers 3 "is continuously moved to and fro in relation to the film" (see e.g., page 1, lines 64-65), that the or each roller may be reciprocated in the roller's axial direction transverse to the direction of film travel (see e.g., page 1, lines 80-83) or caused to vibrate in other than the axial direction (see e.g., page 1, lines 83-86, Fig. 3 and Fig. 4). Hall also says that if more than one roller is moved then the motion preferably is a reciprocal movement transverse to film 1's direction travel to impart a sideways thrust to the coating liquid, and that the reciprocal roller movements should be out of phase with one another (see e.g., page 1, lines 80-89 and page 2, lines 38-55). Hall says this may be accomplished using a vertical camshaft (see e.g., page 2, lines 117-127) whose lobes bear on the ends of the shafts carrying the rollers 3:

Serial No. 10/821,588

Docket No.: 55476US041



Hall does not show vibrating two or more rollers in the direction of film travel and out of phase with one another. Hall mounts his rollers in support structure 2, which would presumably cause such vibrations to be in phase rather than out of phase.

Hall seeks to thin the coating and smooth out transverse (cross-web) coating thickness variations (see e.g., page 1, line 92 through page 2, line 63). Hall does not discuss reduction of lengthwise (direction of web motion) thickness variations. Put another way, Hall seeks improved cross-web uniformity, not improved down-web uniformity.

Hall does not show or suggest the apparatus of claims 1-4. Applicants accordingly request withdrawal of the rejection of Claims 1-4 under 35 USC §102(b) as being anticipated by Hall.

### Conclusion


Applicants have amended the specification and several of the claims as recommended by the Examiner. The remaining claims are patentable as is or as amended. The cited references do not show applicants' claimed methods. Applicants accordingly request reconsideration and withdrawal of the rejections and passage of their application to the issue branch.

Serial No. 10/821,588

Docket No.: 55476US041

Respectfully submitted on behalf of  
3M Innovative Properties Company,

April 7, 2005

  
David R. Cleveland  
Registration No: 29,524  
612-331-7412 (telephone)  
612-331-7401 (facsimile)

IPLM Group, P.A.  
P.O. Box 18455  
Minneapolis, MN 55418

**All correspondence regarding this application should be directed to:**

**John A. Burtis  
Office of Intellectual Property Counsel  
3M Innovative Properties Company  
P.O. Box 33427  
St. Paul, Minnesota 55133-3427  
Telephone: (651) 736-4235  
Facsimile: (651) 736-3833**